

User's Manual



Safety Pips with relay output (7100.181.K)

Continuous Wrist Strap Monitor
with relay output

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■ Introduction

The Safety Pips is a continuous wrist strap monitor. The person wearing the wrist band is grounded and checked permanently by a measurement of resistance and body capacity. When measuring the input resistance of the instrument to ground, please use a voltage above 15 Volt because of the 12 Volt protection zener diodes fitted in the instrument.

■ Installation

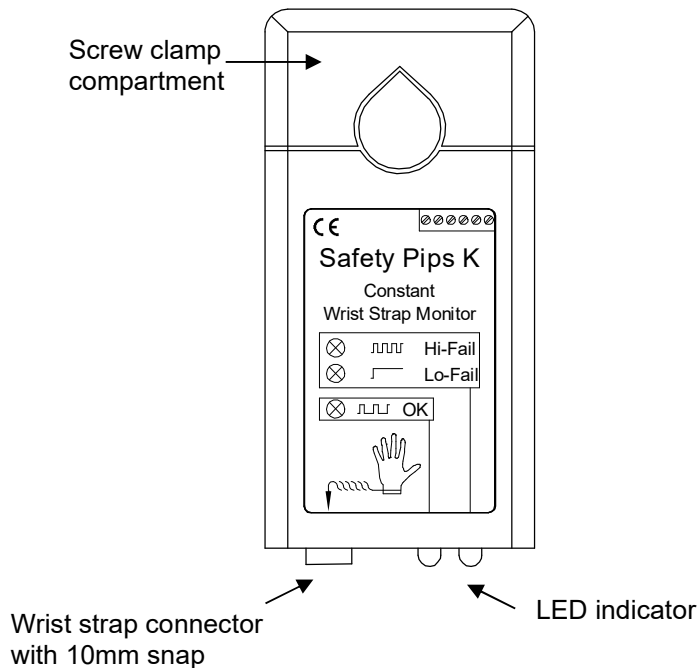


Illustration:

Optional bracket for fixing the instrument under a work bench (Part no.: 7100.181.H)

1. Fix the Safety Pips at the workplace where the two signal LED's can be seen.
2. Open the lid for the screw clamp.
3. Connect terminal 2 (⊕) to a suitable grounding point.
At delivery there is a direct connection from terminal 1 (B) to 2 (⊕) and no conductive fixtures or the grounding are monitored.
If grounded conductive fixtures shall be monitored, connect them to terminal 1 (B) and remove the direct connection between terminal 1 (B) and 2 (⊕).
To monitor the grounding of the unit (instead of conductive fixtures) connect an additional earth wire to terminal 1 (B) and to a second suitable grounding point. and remove the direct connection between terminal 1 (B) and 2 (⊕).
4. Connect the power supply to terminal 3 and 4.
5. External monitoring logic can be connected to the signal contact terminal 5 and 6.
6. Connect the power supply to the mains voltage.

■ Operation

Put on the wrist strap and connect the coil cord snap to the Safety Pips front connector. The instrument is permanently switched on.

The Safety Pips monitors the connecting cords and the contact between the wrist strap and the human skin by testing permanently if the resistance and the body capacity of the person wearing the wrist strap is within the specified range.

■ Signals and possible error conditions

Green LED flashes

Resistance and capacity are in the rated range

Red LED flashes

Reason: The measured resistance is too high
Measures: Check if the wrist strap is fixed tight to the skin
Check if grounding wire or the coil cord are broken

Red LED is permanent on

Reason 1: The measured resistance is too low
Measures 1: Check if the coil cord contains a safety resistor
Check for an insulation failure or a too big capacity to conductive table mats
Reason 2: Direct connection between terminal 1 and 2 is missing, connection to conductive fixtures is broken or one of the earth wires is broken
Measures 2: Check connections to terminal 1 and 2

■ Calibration

A Calibration Unit is available to check the Safety pips correct function and values (Part no.: 7100.181.C)



■ Models and accessories

Available models:

Part No.	Description
7100.181	Safety Pips with 10 mm snap, grounding cord with 4 mm ring terminal
7100.181.K	Safety Pips with relay output, 230V power supply, without audible alarm

Available accessories:

Part No.	Description
7100.181.C	Calibration Unit for Safety Pips
7100.181.H	Bracket for Safety Pips
7100.181.103	Power supply 230 V AC/9V DC for Safety Pips with Part-No.: 7100.181

■ Technical data

Power supply:	Power supply 230V / 50Hz
Connectors:	10 mm snap for coil cords
Contact ratings:	Max. voltage: 60 V Max. current: 0.2 A Max. power: 6 VA
Switch on time of signal contact:	ca. 1 s
Switch off time of signal contact:	ca. 5 s
Test voltage (open circuit)	DC < 0,01 Volt AC < 4,00 Volt
Test current at 1,0 MΩ load:	DC < 0,01 μA AC < 1,00 μA
Case:	ABS, black, dissipative (except the name plate)
Operating conditions:	Temperature range: + 10 °C to + 40 °C Relative humidity: 20 % to 80 %
Dimensions:	125 x 60 x 26 mm
Weight:	app. 85 g

■ Input impedances

Pass (green LED flashing)

Lower rated value:	1 MOhm -10 %
Upper rated value:	100 pF + 2 MOhm +10 %

Fault condition (red LED and beep)

Lower rated value (permanent red):	400 kOhm
Upper rated value (flashing red):	5 MOhm

■ Input impedances for control input B

Pass (green LED flashing)

Upper rated value:	100 Ohm
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■ Waste disposal

According to WEEE Directive 2012/19/EU the device is marked with this symbol.

This device must therefore not be disposed of with the household waste.

